



# **PAGES: Little Sun endline evaluation report**

**March, 2017**

# EVALUATION

Reporting Date	<b>08/01/2017 (Baseline) &amp; 03/03/2017 (Endline)</b>
Name of organization receiving the lamps	<b>SCI (PAGES Ethiopia)</b>
Name of author of the report	<b>Siraj Jewaro</b>
Position of author of the report	<b>PAGES MEAL Manager</b>
Total number of lamps donated	<b>500</b>
Location(s) of the donation	<b>UK</b>

## Background

Pastoralist Afar Girls Education Support (PAGES) project has been implementing education initiatives in eight woredas of Afar Regional State to improve the life chances of marginalized girls since 2013.

This pilot project uses a donation of 500 Little Sun solar lights to support children within 16 PAGES-supported schools in eight woredas (districts) of Afar Region of Ethiopia. The pilot aims to make a qualitative assessment of the contribution of access to solar lights to children's education and wellbeing at the beginning and end of the pilot.

The study was conducted in 16 upgraded schools constructed by PAGES in eight woredas. At baseline, 29 student Focus Group Discussions (FGD) were conducted with 228 (124 boys and 104 girls) members and 14 parents FGD groups with 98 (62 male and 36 female) members. At endline, 16 student Focus Group Discussions (FGD) were conducted with 106 (56 boys and 50 girls) members and 14 parent focus Group Discussions (FGD) with 92 (57 male and 35 female) members. Compared to the baseline study, there were fewer endline participants; however, as the study was aiming to capture the impacts of the donation the sampled number can be considered representative.

Qualitative data was collected from schools selected using purposive sampling methods where students were selected using simple random sampling techniques. Data was analyzed using descriptive statistics. Qualitative data was collected from students, parents and teachers through focus group discussions (FGD).

Students were selected randomly from the 16 schools where the Little Sun solar lamps were distributed to take part in a FGD. Three boys and three girls took part in each FGD. An FGD was conducted at each school with parents, the school director and one teacher from the school.

From the total population of 500 students, the team planned to include 250 within the baseline survey sample. However, due to student absenteeism and the normal movement of the community searching for water, data was collected from 228 students, which can be considered more than representative nonetheless. 98 parents also participated in the survey through FGD. At the endline study, it was planned for 128 students from the 16 schools, or eight (four boys and four girls) students per school, among those who got Little Sun solar lamps, and 128 parents and teachers to be included. Due to the common community movement, the actual numbers of participants at the endline were 106 and 92 students and parents and teachers respectively as shown in table 1 below.

## Methodology

**Table 1: Sample respondents by Woreda**

Woredas	Total # ben. (N)	Sampled Stud. (n) (Baseline)	STUDENTS			PARENTS & TEACHERS			
			Sampled Stud. (n) (Endline)	FGD groups (Baseline)	FGD groups (Endline)	# of parents and teachers interviewed (Baseline)	# of parents and teachers interviewed (Endline)	FGD groups (Baseline)	FGD groups (Endline)
Chifra	125	56	15	7	2	16	16	2	2
Dawe	48	24	13	3	2	16	14	2	2
Hadelela	47	14	16	2	2	14	14	2	2
Samurobi	60	30	16	4	2	14	12	2	2
Adaar	57	32	12	4	2	0	7	0	1
Mille	58	24	10	3	2	6	10	2	2
Gewane	58	24	12	3	2	16	11	2	2
Gelealo	47	24	12	3	2	16	8	2	1
total	500	228	106	29	16	98	92	14	14

From the total sampled students, 54.4 % are boys while the remaining 45.6% are girls. Out of 98 participating parents and teachers, 63.3% are male while 36.7% are female. As the respondents characteristics showed the participation of girls and women can be taken as representative.

### **1. Please describe the overall situation of the lamps recipients before the donation**

Household light source is a problem in many rural parts of Ethiopia. SC staff have observed this as a particular issue in Afar Regional State as the region is pastoral and the least developed in terms of infrastructure, which extends to limited sources of electric light. Firewood serves as the main fuel to provide a source of light for the large rural communities of the region.

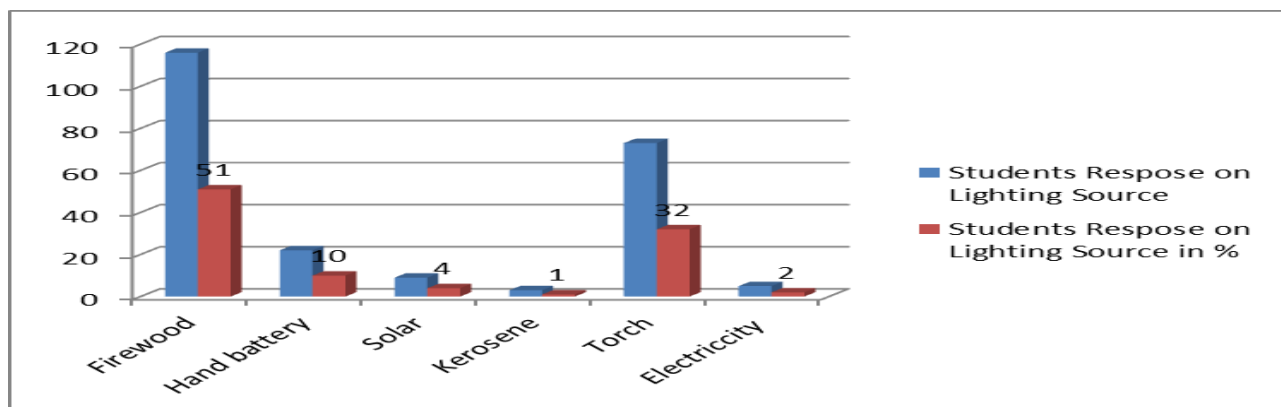
In Afar region, girls and boys have distinct gendered roles and responsibilities within the household. Accordingly, looking after livestock is the responsibility of boys while cleaning the house, fetching water, collecting firewood and preparing food for their families is considered work for girls. The majority of girls in the focus group discussions conducted for the baseline said that they help their families in domestic work most of the time after school, while boys look camels and goats after school.

All 14 student FGD groups (124 boys and 104 girls) responded that their teacher gives them assignments to do at home. Teachers' responses in the FGD groups agreed with the girls and boys' responses confirming that they give assignments for the students to complete at home. Parents in the FGD responded that their children were doing assignments after school.

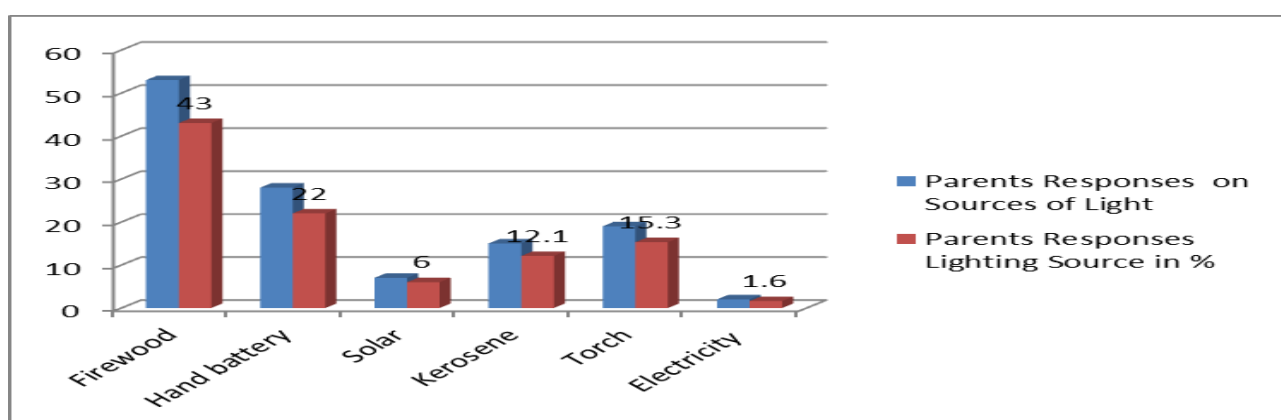
### **2. Please describe the overall lighting sources /situation/ of the recipients before the donation**

Out of 228 interviewed participants 51%, 32%, 10%, 4%, 2% and 1% responded that their current lightsource was firewood, torch, hand battery, solar, electricity and kerosene respectively which shows that firewood was the main source of light for the household followed by torch and hand battery.

**Chart 1: Students' response on light source**



**Chart 2: Parents' response on light source**



From the findings, it can be concluded that the principal current light source in the household is firewood, which does not produce a comfortable environment for students to study and/or do homework when it is dark. During the FGD, some participants mentioned that the smoke from the firewood has been affecting the health of students and their families as well. In addition, as the same light sources are utilized by both students and parents within the house, these sources are frequently monopolized by parents, which affects the amount of time students can use the light source for reading and doing homework assignments at night.

### **3. Please describe the overall problems do they have with using any of these lighting sources**

Both students and parents FGD groups were asked to respond on the problems they experience with the current light source from economic, health and comfortability perspectives.

FGD participants who listed firewood as their main source of light mentioned challenges of walking a long distance to collect firewood from the bush, which is an additional personal security risk for girls and women. Common responses included “takes time to collect”, “not easily flammable”, “not suitable to read and write in the night” and “exposed for eye disease”. As the typical Afar community house is quite

squat and small in size, ash and smoke disturbs the people inside and raises the temperature in the house.

FGD participants who listed torches as a source of light faced transportation costs, the battery charge not lasting a sufficient time, the torches not being durable and not providing enough light in the house.

FGD participants who listed solar lamps as a source of light mentioned challenges, such as the absence of sunlight and that they are expensive to purchase in the market.

**4. Please describe the overall situation of the lamps' recipients in terms of conventional lighting habits and economics before the donation / how much they spend on lighting per-week.**

22% respondents of the parents' FGD were using a hand battery as their main source of home light and they responded that on average they are incurring 12 birr per week to buy the battery. 12.1% of respondents of the parents' FGD who responded they were using kerosene, noted that they are incurring 24 birr per week to buy a litre of kerosene, excluding transportation costs to go to the nearest market. 15.3% of respondents in the parents' FGD who responded that they were using torches mentioned they were incurring 10 birr to charge and 30 birr on average for transportation to go the nearest market every week.

**5. How would you describe the overall lighting and energy situation in the area of the lamps donation?**

As described in section 2, there is no electricity in the areas where Little Sun beneficiaries are living, which means they are entirely dependent on buying lighting or sourcing firewood.

**6. Please describe any challenges beneficiaries anticipate may arise related to the solar lights.**

According to the parents' FGD responses, as the communities are pastoralist there is a probability of losing and breaking the solar lamps when they move from one place to the other. In addition, as there is a shortage of household lighting sources in the area, in some households there is the probability of conflict between children and their families on the utilization of solar lamps, especially in the absence of household heads. The teachers in the FGD responded that they would talk with students on the proper utilization of the lamps so that they don't get broken or lost.

## **7. Please describe how beneficiaries anticipate the solar lamps will affect children's ability to do after school studies.**

Almost all of the student FGD groups responded that they would use the solar lamps for doing homework assignments and reading. They also noted that the lamp will protect them from hazardous things at night time, such as snakes. Both boys and girls also said that as the solar lamps were easy to hold, it can help them as a light to go to their friend's homes nearby to study together with during the evening. Girls in the FGD responded that the solar lamp would help them as they carry out their household domestic duties in the evening, such as preparing food and coffee. Student FGD groups responded that the Little Sun can serve as their family's main lighting source and families can use the solar lamps when they were not being used for their main purpose – to support girls and boys to study. The solar lamps were perceived to be able to enhance girls and boys' ability to read and write in the evening, with no smoke disturbance, which in turn can improve their academic performance. Having their own solar lamp would give girls and boys a sense of ownership and enable the efficient utilization of light for their studies.

Parents and teachers in the FGDs agreed with the students that the solar lamps would improve students' ability to read and write and perform in school as they will be able to practice reading at night.

The parents' FGD responded that the priority of using the solar lamps will be given for their children's reading and simultaneously can also serve as sources of light for their home. Parents in the FGD responded that they think other families also may give priority of utilization solar lamps for their children's reading and that the families could also benefit from the light as students and families were living in the same house.

## Impact of the lamps donation (Endline only)

### 1. How many recipients still have their lamps during the impact survey? What are the main reasons for this situation?

A total of 106 students (56 boys and 50 girls) were interviewed and all students still have their lamps. This was a clear result of the orientation given to students, parents and teachers on how to use and store their lamps properly during the distribution process and parents' follow up. In addition, the Little Sun is considered an asset for both students and their parents as it is an important contributor to household light source.

### 2. Did the donation change the lighting source problems of the recipients?

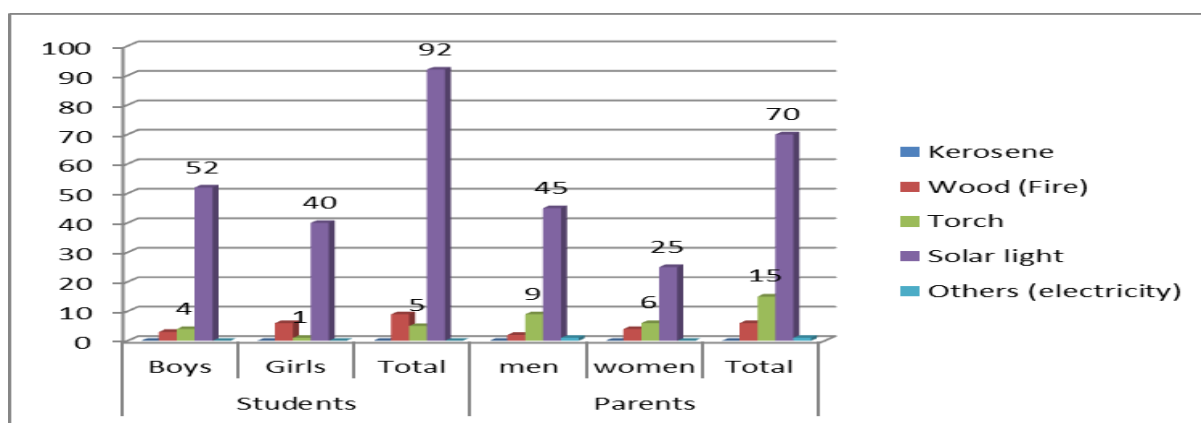
The donation of Little Sun solar lamps seems to have addressed lighting source challenges for both students and their wider households. As traditional Afar houses are small by design, a single solar lamp is adequate to illuminate the whole house. At baseline, 51% and 43% of students and parents respectively responded that their primary light source was firewood, followed by torchlight, hand battery and kerosene. At the endline, only 8.5% of students and 6.5% of parents responded that their primary household light source was firewood and 5% of students and 16.3% of parents responded that the current source of light for their home was torchlight. 87% of students and 76.1% of parents responded that their current light source is solar. This demonstrates the huge success of the solar lamps. It can also be concluded that the problems mentioned at the baseline such as time spent travelling long distances to search for and collect firewood for light source, being disturbed by firewood smoke and the costs associated with going to town to charge torches were significantly lessened through use of solar lamps.

Parents were asked how students had used the solar lamps. Many of them responded that as traditional Afar rural homes are small, when students use the solar lights to study during the night, the families also benefit from the light. One of the parents interviewed in Gewane woreda said that his family got mutual benefit from the solar lights and “Be and dingay wulet wof” an Amharic proverb to mean killing two birds by one stone.

Students were asked how their families use the solar lamps and almost all of them responded that their families used the solar lamps during the night whilst the students were reading (as a wider light source). They explained the lamp was also used whilst the children slept but confirmed that priority for use was given for the students' studies.



**Chart 3: Different Sources of light**



**3. What is the feedback of the recipients on the Little Sun solar lamp in terms of ease of use and reliability?**

All 106 interviewed children responded that the Little Sun Solar lamps were very easy and reliable to use. In pastoralist communities with poor infrastructure, including electricity in general, and in Afar communities with frequent mobility, Little Sun solar lamps are easy to hold whilst looking after camels and goats in the night, as well as easy to charge during the day. Some of the students responded that they have also been using the solar lamp when they are sent on errands after dark, such as when their families send them to their neighbours and/or shop during the night.

**4. What was the impact of the Little Sun solar lamp on the recipients/ability to do after school studies?**

All interviewed students responded that having Little Sun Solar lamps boosted their abilities as they were reading more during night, doing their assignments and participating in class. This was confirmed by students’ parents that their children are reading more now than before and their exam results are also improving. The School Director from Gewane Woreda Medelela School said that there is significant difference before students got Little Sun and now as there are improvements in their academic results.

**5. Conclusion – What is your overall feedback about this donation?**

The donation of the solar lamps was ideal for the context and very needed as it solved both students’ and parents’ challenges of finding sustainable and reliable light sources. This type of donation was the first in its nature in the area and it made the heart of students and parents happy. The donation also benefitted wider project work as parents appreciated the donation, which made them more supportive to students working on homework during the night time. If the project were longer, we would have definitely sought to extend the number of student beneficiaries of the lamps.

“Last but far from the least, as I a person who is working with and for children especially with and for the most marginalized Afar Girls, I would like to say many thanks for the donor of this Little Sun solars on the behalf of PAGES and Afar Girls.”

Siraj Jewaro, PAGES MEAL Manager

## Case Studies

Name: Fatuma Hussen

Age: 12

**Background Information:** Fatuma Hussen is a student in grade five at Semsem Primary School in Chifra district of the Afar Region. Fatuma has two sisters and a brother. She was recently provided with a solar lamp that now enables her to study and do homework at night by Save the Children's PAGES Project.

So far, Save the Children, through its PAGES project, has distributed 498 solar lamps benefiting a total of 498 school children out of which 250 are girls. The distribution covered all eight intervention districts of the Afar Region.

### Fatuma's Quotes

"Last year, with the support of my teacher, I stood third in my class. This year, with the provision of the solar lamp, I will study hard and do better"

"For those people who supported us with the solar lamp, I want to say thank you on behalf of all the children in my community"



Name: Hassna Mohammed

Age: 13

**Background Information:** Hassna Mohammed is a student in grade seven at Semsem Primary School in Chifra district of the Afar Region, Ethiopia. Hassna has three sisters and a brother.

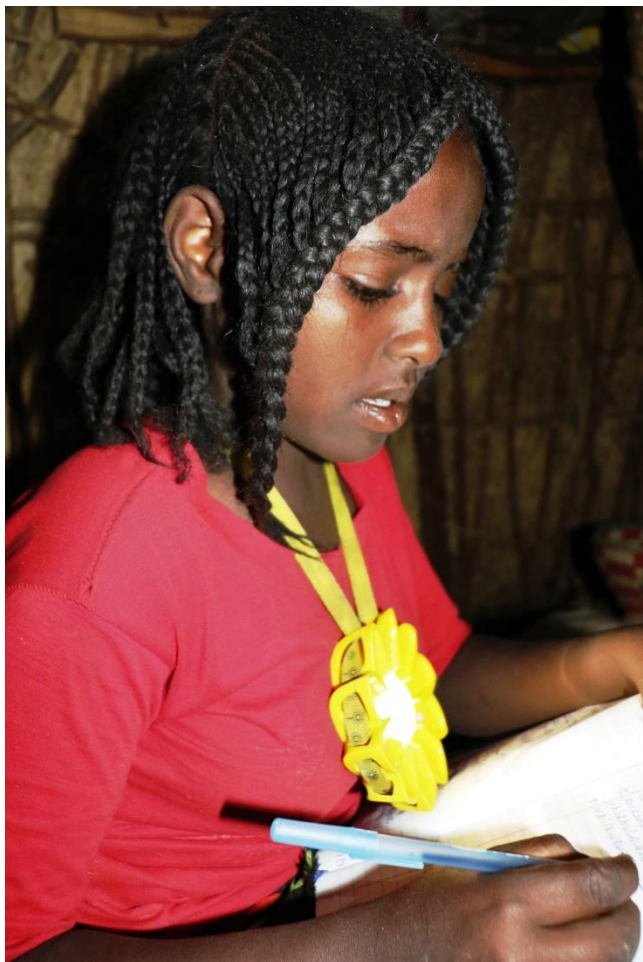
PAGES Project provided Hassna with a solar lamp that helped her to study and do homework at night.

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#### Quotes from Hassna

“The solar lamp has helped me a lot. I am now able to read and do my homework at night. I am also able to guide my sheep and goats to their barn in the dark when it is night time. The lamp has also helped me with household chores which used to be difficult to carry out.”

“I like going to school every day and I want to go further with my education. For future, I want to become a great teacher. I want to help children particularly girls in Afar who do not have access to education”



Name: Mekdes Geshaw Belete

Age: 10

**Background Information:** Mekdes Geashw is a student in grade 3 at Medelela Primary School in Gewane Woreda of Afar Region State. Mekdes has two sisters and one brother and she was among the students who got solar lamp provided by PAGES.

### Mekdes's Quotes

“This year first semester I stood 1<sup>st</sup> from my class and I used my Little Sun solar lamp to read more and I will keep standing first in the next semester also. Even though, there is a competition from both Mohammed who stood 2<sup>nd</sup> next to me and Minalu who stood 3<sup>rd</sup>, I will work hard by using my Little Sun to keep my rank forever”

“Lastly I would like to thank Save the Children for providing me this Solar”.



This 3 boys and 3 girls are FGD group interviewed at Medelela school in Gewane Woreda and as it can be seen from their face they look happy and all of them say thank you for the donors of Little Sun.